

Sunshine Coast Council
Organisational Environmental
Sustainability Benchmarking
2016/17





What is benchmarking?

Benchmarking is the process of comparing 'like for like' over time. It requires establishing what to measure, and how to measure it, to produce, in this case, a meaningful annual environmental sustainability snapshot. Each yearly snapshot can then be compared to previous or future snapshots to detect changes over time (e.g. increases or decreases in energy consumption). In this instance, Sunshine Coast Council will compare its organisational environmental sustainability results from financial year to financial year.

Why benchmark?

The main purpose of benchmarking is to improve business efficiency and environmental outcomes. It will allow council to understand trends, changes and why some areas of environmental sustainability might be going well while other areas need improvement. Council resources can be altered, applied, maintained or withdrawn accordingly. This will result in more focused efforts, cost savings for council and better sustainability outcomes.

Benchmarking benefits

- Provides an indication of how much work and investment might be required to improve current environmental sustainability outcomes to meet specified targets
- Provides evidence-based insight into business performance that can be used to develop or adjust targets, actions and resources
- Allows Sunshine Coast Council to lead by example, share best practice and promote the great outcomes within the organisation, the community and with other councils
- Provides a transparent look into the organisation's progress towards becoming Australia's most sustainable region and builds on the many sustainability, emissions reduction and renewable energy initiatives already in place.

Approach to benchmarking

The following benchmarking report for the 2016/17 financial year measures Sunshine Coast Council's performance on environmental sustainability within the organisation.

In this report, Sunshine Coast Council's organisational performance is measured against data from the 2015/16 financial year. Where appropriate, the 2016/17 and the 2015/16 data is also compared against data from the baseline year, 2014/15, to show trends and changes.

The areas measured and indicators used only relate to environmental sustainability within the organisation. Social, financial, economic, biodiversity and conservation aspects of sustainability were omitted as these are monitored and reported by other areas of council.

One key area of environmental sustainability that has been measured is the organisation's carbon footprint. The carbon footprint provides an overarching indication of the organisation's environmental sustainability status. However, it does not fully capture some organisational activities that contribute towards generating emissions, emission reductions and achieving environmental sustainability. Therefore, this benchmarking exercise also includes waste, energy, transport, water, green buildings, environmental sustainability programs and environmental sustainability embedded into systems and processes. For each area measured, several indicators were developed. Some

indicators (primary indicators) give a better snapshot of environmental sustainability at Sunshine Coast Council than other indicators. However, all of the indicators collectively give a comprehensive picture of trends and changes. Accordingly, results are presented for both primary and other indicators.

The data used to measure the indicators was not originally collected for the purpose of sustainability benchmarking. It is data that is collected by the organisation for day-to-day business operations. The data has been standardised wherever possible. This means that it is able to be compared 'like for like' to future data sets, regardless of changes in the organisation. Full time equivalent (FTE) figures were used to standardise the data (Table 1). An FTE is the unit that is used to measure the workload of full time, part time, contracted or casual employees¹.

Table 1: Sunshine Coast Council population and FTE figures

State	2016/17 Financial Year Population	2016/17 Financial Year Number of FTE	Own and operate landfills? ²	Water and sewerage service part of council?
QLD	303,400	1661 FTE ³	✓	✗

Note: FTE – Full Time Equivalent

- 1 One FTE is equal to one full-time workload which might be conducted by one full-time employee or two part-time employees (each doing half of a full-time workload).
- 2 Both of these activities influence organisational sustainability outcomes. For example, the carbon footprint will be much greater if council owns and operates landfills or provides water and sewerage services to the community. Therefore, consideration of landfills and water and sewerage services has been given in this report to provide a better understanding of Sunshine Coast Council's sustainability achievements in relation to other councils' achievements.
- 3 This figure represents FTE hours paid for all established, non-established positions and agency staff for the financial year. The number of FTE's in 2015/16 was 1553.

Sunshine Coast Council's Organisational Environmental Sustainability Snap Shot 2016/17

Carbon (greenhouse gas) emissions

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Greenhouse gas emissions (including emissions from community waste) ⁴	140,238 tonnes CO ₂ e	–	84 tonnes CO ₂ e	As an organisation, council's greenhouse gas footprint has reduced by 22,960 tonnes CO ₂ e since the baseline benchmark year (2014/15).
Change in greenhouse gas emissions between the 2015/16 and 2016/17 financial years	2809 tonnes CO ₂ e reduction since 2015/16 (143,047 tonnes CO ₂ e in 2015/16)	2% reduction since 2015/16	8 tonnes CO ₂ e reduction since 2015/16 (92 tonnes CO ₂ e in 2015/16)	
Methane captured and flared at Nambour and Caloundra landfills ⁵	47,263 tonnes CO ₂ e	Nambour landfill flaring at 34% and Caloundra landfill flaring at 33% ⁶	28 tonnes CO ₂ e	
Change in methane captured and flared at Nambour and Caloundra landfills between the 2015/16 and 2016/17 financial years	6263 tonnes CO ₂ e increase in flaring since 2015/16 (41,000 tonnes CO ₂ e flared in 2015/16)	In 2015/16 Nambour landfill was flaring at 36% and Caloundra landfill was flaring at 26%	2 tonnes CO ₂ e increase since 2015/16	120% increase in flaring since the baseline year (2014/15) due to more infrastructure installed at both landfills. This has contributed to a reduction in overall emissions.

Sunshine Coast Airport: Level 3+ Carbon Neutral of International Airport Carbon Accreditation program



Sunshine Coast Airport has joined an elite number of international airports and is the first in Australia to gain Level 3+ Carbon Neutral accreditation under the Airport Carbon Accreditation program.

Sunshine Coast Airport now ranks alongside the likes of Athens, Gatwick and Dallas International Airports, in being certified as carbon neutral under the program.

Sunshine Coast Airport achieved Level 1 mapping in 2013, Level 2 Reduction in 2014, Level 3 Optimisation in 2016 and Level 3+ Carbon Neutral in 2017. Achieving Level 3+ Carbon Neutral involved reducing emissions as much as possible and then purchasing and retiring Australian Carbon Offsets for the remaining emissions.

Examples of carbon reduction initiatives at the airport include:

- low energy lighting and air conditioning
- waste reduction and recycling programs including an organic waste system (OSCAR) powered by solar
- smart tracking technology that guides aircraft along precise flight paths to reduce distance travelled and fuel consumption.

4 Council emissions include emissions from waste generated by council activities, electricity, liquid petroleum gas, fuel and streetlights. Emissions from waste generated by council activities were calculated to be 9860 tonnes based on the volume of waste to landfill from 2014/2015 and factoring in lag time of waste emissions. Emissions are generated from waste landfilled at Caloundra and Nambour landfills.

5 The gas flared was from emissions generated from both community waste and waste generated by council activities.

6 These percentages refer to the total amount of emissions generated from each landfill site.

Change in Sunshine Coast Council's greenhouse gas emissions (tonnes CO₂e)

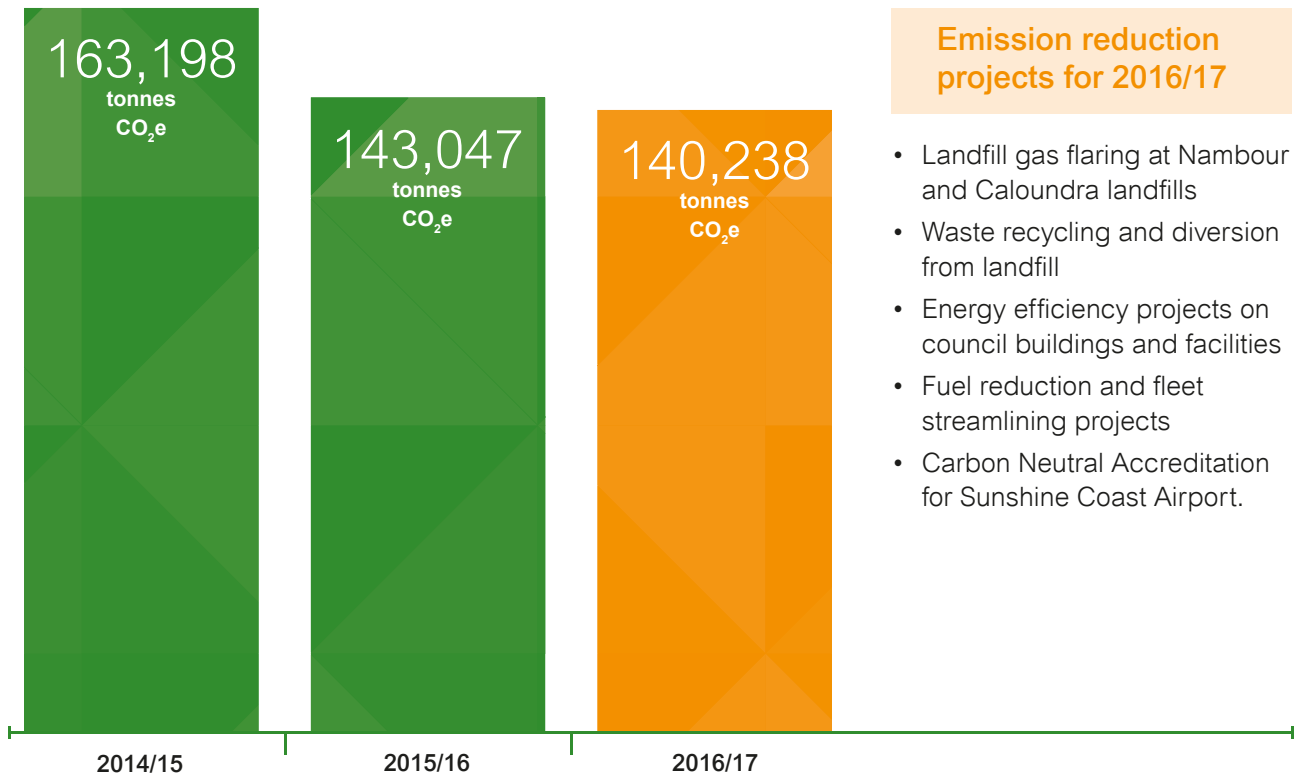
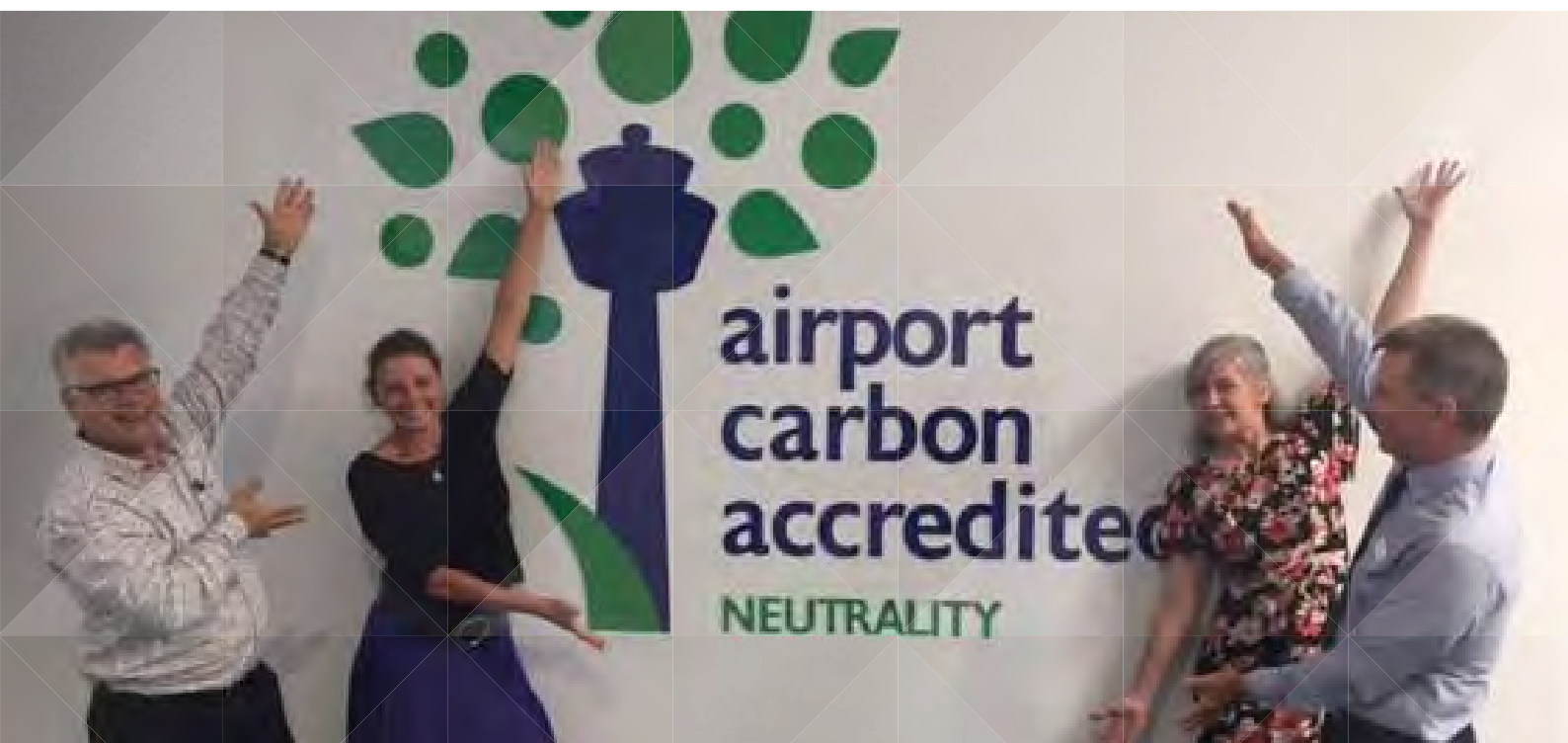
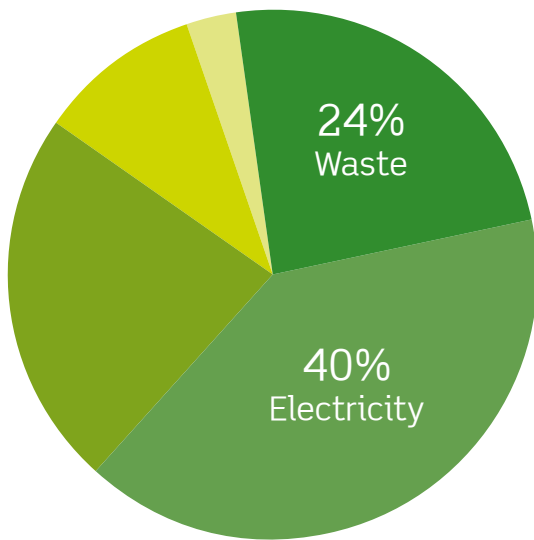


Figure 1: Change in Sunshine Coast Council's greenhouse gas emissions (including emissions from community waste and waste generated from council activities) between the 2014/15, 2015/16 and 2016/17 financial years



Sunshine Coast Council's 2016/17 greenhouse gas footprint

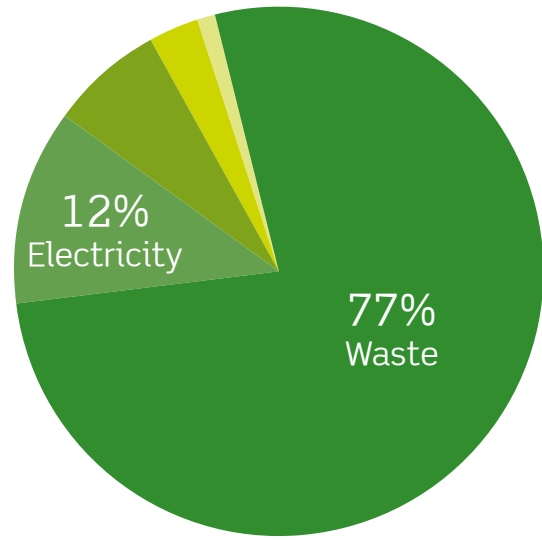
Excluding emissions from community waste (Total: 41,779 tonnes CO₂e)



- Waste 24%**
9860 tonnes of greenhouse gas generated from waste from council activities
- Electricity 40%**
16,876 tonnes of greenhouse gas
- Street lights 23%⁷**
9459 tonnes of greenhouse gas
- Fuel 10%**
4076 tonnes of greenhouse gas
- Liquid petroleum gas 3%**
1508 tonnes of greenhouse gas

Figure 2: Sunshine Coast Council's greenhouse gas footprint (tonnes CO₂e) for the 2016/17 financial year *excluding* emissions from community waste

Including emissions from community waste (Total: 140,238 tonnes CO₂e)



- Waste 77%**
108,319 tonnes of greenhouse gas generated from community waste and waste from council activities
- Electricity 12%**
16,876 tonnes of greenhouse gas
- Street lights 7%**
9459 tonnes of greenhouse gas
- Fuel 3%**
4076 tonnes of greenhouse gas
- Liquid petroleum gas 1%**
1508 tonnes of greenhouse gas

Figure 3: Sunshine Coast Council's greenhouse gas footprint (tonnes CO₂e) for the 2016/17 financial year *including* emissions from community waste as well as emissions from waste generated by council activities

⁷ Street lighting has been separated out from 'Electricity' as it is a significant source of greenhouse gas emissions and is reported on as a separate item within the Corporate Plan.



Waste

Indicators ⁸	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Waste generated by council activities	5186 tonnes	–	3 tonnes	
Change in waste generated by council activities between the 2015/16 and 2016/17 financial years	1699 tonne reduction since 2015/16 (6885 tonnes in 2015/16)	25% reduction in waste generated since 2015/16	1 tonne reduction in waste generated	Waste generated can fluctuate from year to year depending on development, construction and demolition projects within the region. In 2016/17 there was less construction and demolition waste.
Other indicators				
Waste generated by council activities diverted from landfill	3100 tonnes	60%	2 tonnes	
Change in waste generated by council activities diverted from landfill between the 2015/16 and 2016/17 financial years	939 tonne reduction in diversion of waste from landfill since 2015/16 (4039 tonnes in 2015/16)	1% increase in waste diversion rate since 2015/16	1 tonne reduction since 2015/16	The tonnes of waste diverted reduced because less waste was generated in 2016/17 (there was less waste that could be diverted). However, the diversion rate increased from 59% (2015/16) to 60% (2016/17).

Waste generated by council activities

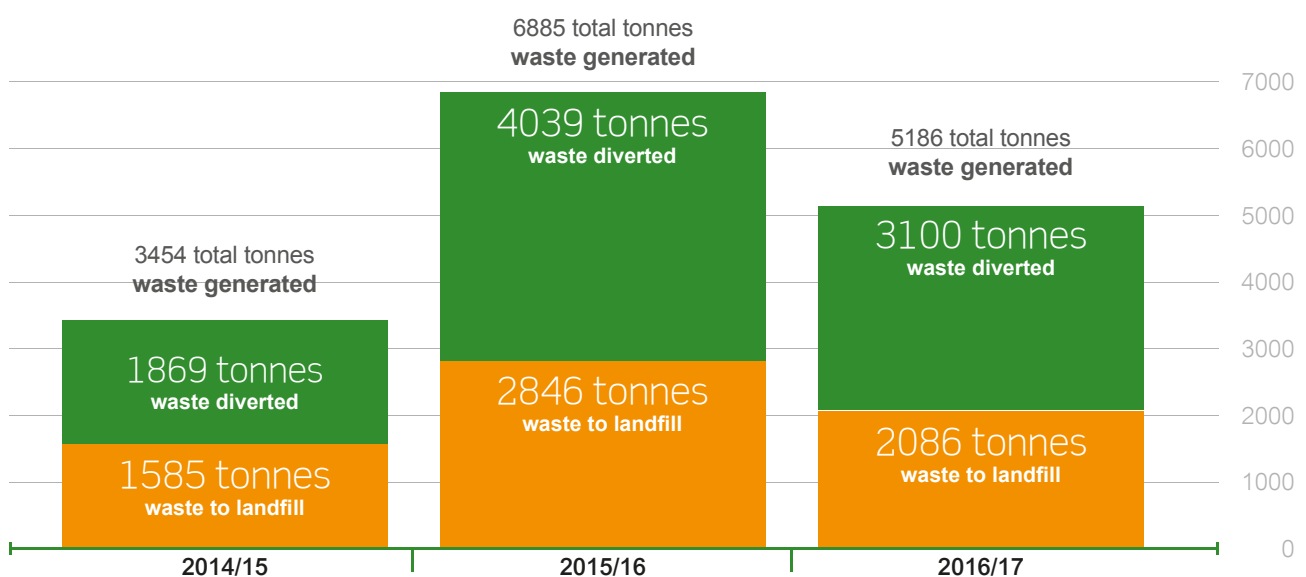


Figure 4: Change in waste generated by council activities between 2014/15, 2015/16 and 2016/17 financial years

⁸ Waste generated by council activities for contract collected waste is calculated based on bin size, service frequency and regional audit data. Self-haul waste generated by council's activities is based on actual weighbridge data; however it excludes some green waste and construction and demolition waste that is handled separately at council depots.



Energy (electricity)

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Electricity consumption (excluding street lights)	21,362 MWh	–	12861 kWh	
Change in electricity consumption (excluding street lights) between the 2015/16 and 2016/17 financial years	1450 MWh increase since 2015/16 (19,912 MWh in 2015/16)	7% increase since 2015/16	39 kWh increase since 2015/16	The 7% increase in electricity consumption is due to more FTE's and greater use of energy intensive sites, such as administration buildings, holiday parks and aquatic centres. The number of FTE's increased by 7% between the 2015/16 and 2016/17 financial years.
Other indicators				
Street lighting consumption	11,974 MWh	–	7209 kWh	
Change in street lighting consumption between the 2015/16 and 2016/17 financial years	336 MWh increase since 2015/16 (11,638 MWh in 2015/16)	3% increase since 2015/16	285 kWh reduction since 2015/16	
Total electricity costs (including all costs such as network charges and excluding street lights)	\$4,771,000	–	\$2872	
Change in electricity costs (including all costs such as network charges and excluding street lights) between the 2015/16 and 2016/17 financial years	\$489,000 increase in costs since 2015/16 (\$4,282,000 in 2015/16)	10% increase in costs since 2015/16	\$115 increase since 2015/16	
Total electricity costs for street lighting (including all costs such as service and maintenance charges)	\$4,762,000	–	\$2866	Service and maintenance charges for street lights increase the cost significantly.
Change in electricity costs for street lighting (including all costs such as service and maintenance charges) between the 2015/16 and 2016/17 financial years	\$153,000 increase since 2015/16 (\$4,609,000 in 2015/16)	3% increase in costs since 2015/16	\$101 reduction since 2015/16	
Capacity of solar (PV) panel systems on council buildings and facilities	158 kW	–	0.1 kW	
Change in capacity of solar (PV) systems on buildings and facilities between the 2015/16 and 2016/17 financial years	No change	Nil	Nil	Council's 15 MW solar farm was officially 'switched on' in July 2017 and will be captured in the 2017/18 benchmarking report.

Energy (electricity) continued

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Other indicators				
Electricity generated by solar (PV) panels ⁹	242,214 kWh	1.13% of council's electricity consumption	146 kWh	
Change in electricity generated by solar (PV) panels between the 2015/16 and 2016/17 financial years	No change	–	–	

Sunshine Coast Council's total electricity usage as an organisation

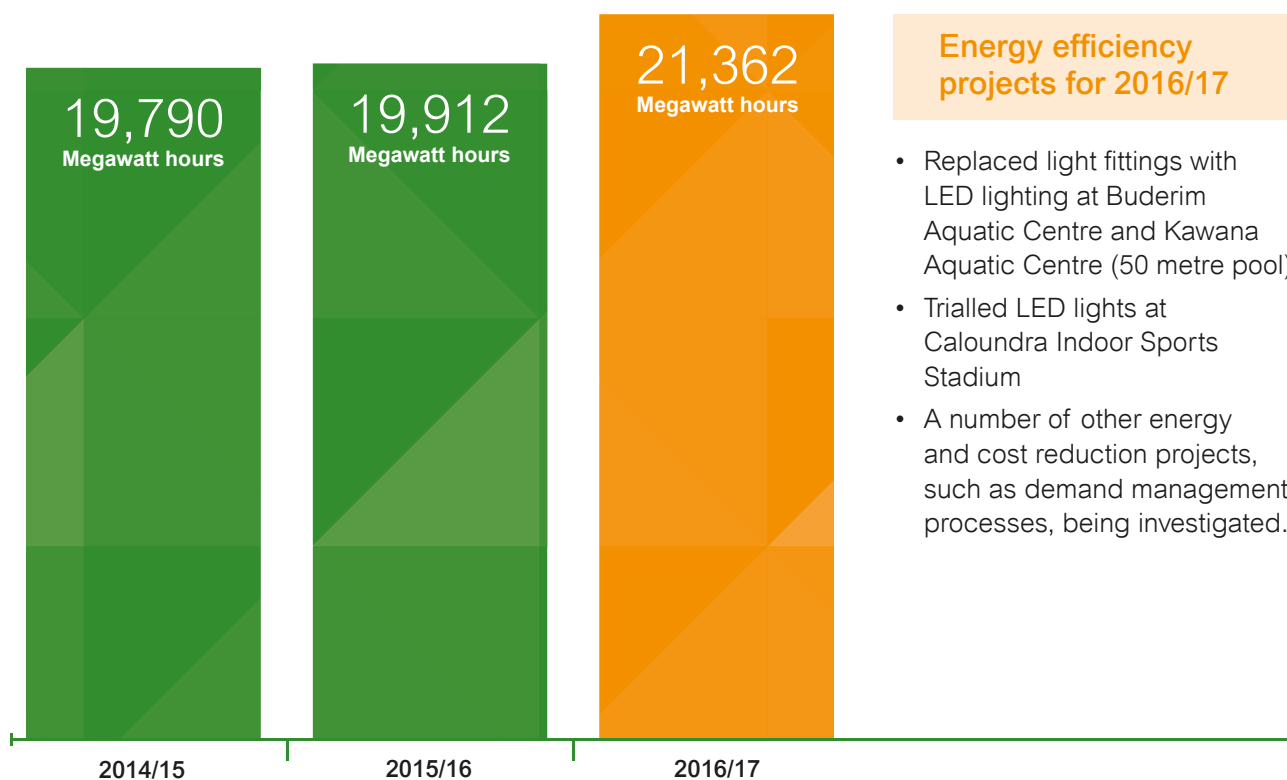


Figure 5: Sunshine Coast Council's electricity use for the 2014/15, 2015/16 and 2016/17 financial years

⁹ This is an estimated figure calculated according to the Clean Energy Council who state that a 1kW solar (PV) panel will generate about 4.2kWh of electricity per day in the Brisbane area.

Energy (fuel)

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Litres of fuel used ¹⁰	1,911,138 L	–	1151 L	
Change in litres of fuel used between the 2015/16 and 2016/17 financial years	24,645 L reduction since 2015/16 (1,935,783 L in 2015/16)	1.3% reduction since 2015/16	95 L reduction since 2015/16	Sunshine Coast Council has reduced its fuel consumption by 7.5% from the baseline benchmarking year (2014/15).
Other indicators				
Fuel costs	\$2,048,523	–	\$1233	
Change in fuel costs between the 2015/16 and 2016/17 financial years	\$14,191 increase since 2015/16 (\$2,034,332 in 2015/16)	–	\$77 reduction since 2015/16	Even with an increase in fuel costs between the 2015/16 and 2016/17 financial years, overall fuel costs have still reduced when compared to the 2014/15 baseline benchmarking year. Sunshine Coast Council's fuel costs were \$2,577,511 in 2014/15.
Alternative-fuel and advanced technology fleet vehicles	2 of 506	0.4%	–	Sunshine Coast Council has two electric vehicles in its fleet
Change in alternative-fuel and advanced technology fleet vehicles between the 2015/16 and 2016/17 financial years	No change	–	–	



Sunshine Coast Council's total fuel usage as an organisation

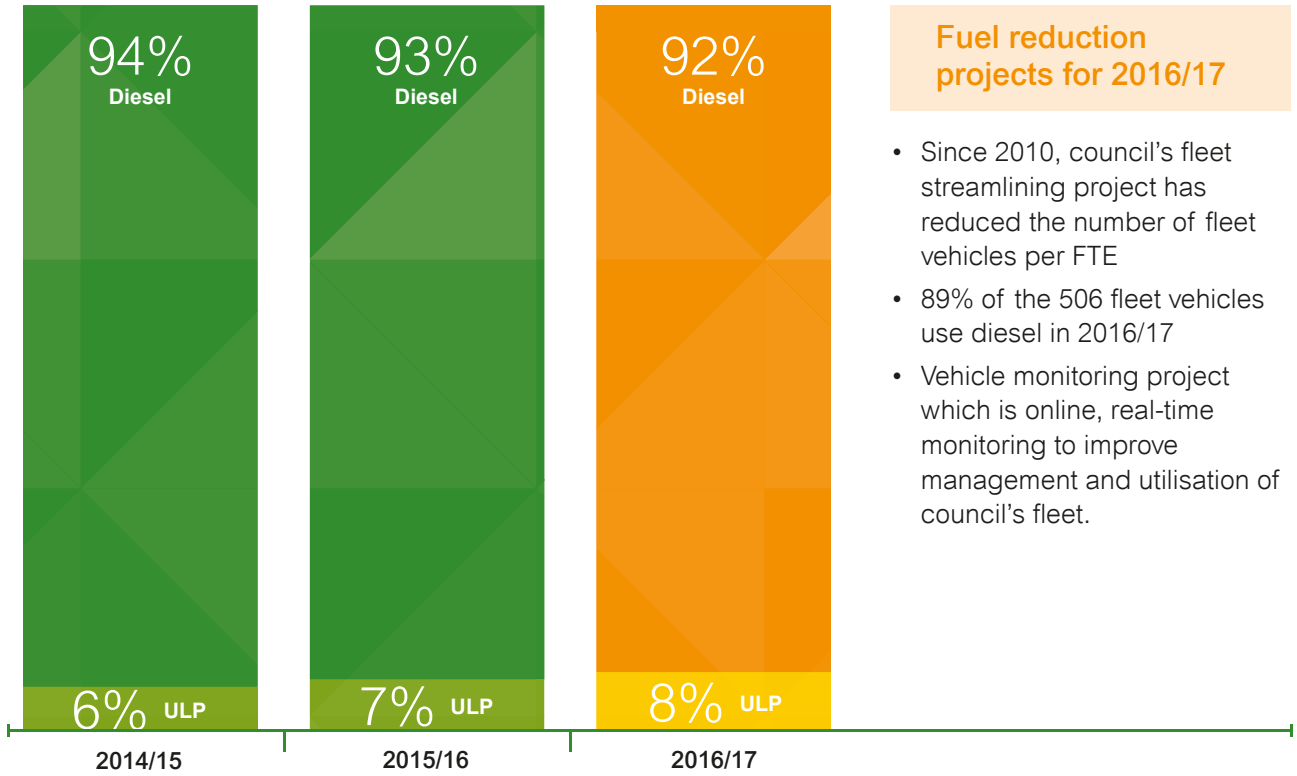


Figure 6: Sunshine Coast Council's fuel usage in the 2014/15, 2015/16 and 2016/17 financial years

10 Fuel includes diesel, unleaded petrol for vehicles and bulk diesel used by heavy plant and equipment such as graders, rollers, tractors and mowers.



Transport

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Fleet vehicles ¹¹	506	–	0.3 vehicles	
Change in fleet vehicles between the 2015/16 and 2016/17 financial years	Vehicles increased by 21 since 2015/16 (485 vehicles in 2015/16)	4.2% increase	No measurable change	While FTE numbers have increased, Sunshine Coast Council continues to ensure the FTE to fleet vehicle ratio is low. This is saving money and reducing emissions.
Other indicators				
Fleet vehicles that are four cylinder	352 of 506	70%	0.21 vehicles	
Change in fleet vehicles that are four cylinder between the 2015/16 and 2016/17 financial years	Four cylinder vehicles reduced by 2 since 2015/16 (354 in 2015/16)	–	No measurable change	
Travel distance saved by staff using alternative transport (car pooling, cycling, walking or public transport)	173,203 km ¹²	–	104 km	In the 2016/17 financial year, Sunshine Coast Council staff registered in the Green Travel program saved: <ul style="list-style-type: none"> • 57,157 kg of greenhouse gas • 18,533 L of fuel • \$22,239 in travel costs.¹³
Change in travel distance saved by staff using alternative transport (car pooling, cycling, walking or public transport) between the 2015/16 and 2016/17 financial years	Kilometres saved by staff increased by 441 since 2015/16 (172,763 kms in 2015/16)	0.3% increase in kms saved since 2015/16	Kilometres saved by staff reduced by 7 kms per FTE (111 kms saved per FTE in 2015/16)	Due to the increase in FTE's, not as many kilometres per FTE were saved

¹¹ This figure includes passenger and light commercial vehicles as well as two hybrid (electric/fuel) passenger vehicles.

¹² This was the result of Travel Smart's 'Green Travel' program for staff. Alternative transport, outside of what has been registered through this program, has not been included.

¹³ These figures are estimated by Travel Smart, 2017.



Water

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Water consumed by council ¹⁴	611,646 kL	–	368 kL	As an organisation, Sunshine Coast Council has over 600,000 litres in rainwater harvesting capacity in tanks situated across council facilities reducing the need to draw from town water
Change in water consumed by council between the 2015/16 and 2016/17 financial years	83,409 kL increase since 2015/16 (528,237 kL in 2015/16)	16% increase since 2015/16	28 kL increase since 2015/16	The 16% increase in water consumption correlates with an increase in FTE's, an increase in council assets and periods of hot, dry weather where more water was used. No large leaks were reported.
Other indicators				
Council's total water cost (including all costs such as water access and sewerage charges)	\$4,324,194	–	\$2603	
Change in council's total water costs (including all costs such as water access and sewerage charges) between the 2015/16 and 2016/17 financial years	\$93,147 increase since 2015/16 (\$4,231,047 in 2015/16)	2% increase since 2015/16	\$121 reduction since 2015/16	

¹⁴ Water consumed includes the potable water that council is billed for by a water access, supply and sewerage service company (Unitywater). It does not include the use of water from other sources such as rainwater tanks.





Green projects

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Assets that are NABERS ¹⁵ or Green Star rated	0	–	–	
Change in assets that are NABERS or Green Star rated between the 2015/16 and 2016/17 financial years	3 less since 2015/16	–	–	3 of the 4 major administration buildings were NABERS rated in 2015/16 but this has been discontinued in 2016/17 ¹⁶ .

Council buildings with sustainable design features

Council incorporates sustainable design features into new buildings and facilities. Some examples include:

- North Shore Community Centre
- Maroochy Arts and Ecology Centre
- Mary Cairncross Rainforest Discovery Centre

Some of the sustainable design features include energy and water efficiency, building orientation to maximise the use of sunlight, shade and protection from wind, thermal mass to regulate building temperatures, cross ventilation and use of sustainable building materials.



¹⁵ NABERS, or the National Australia Built Energy Rating System, is a national rating system that measures the environmental performance of buildings. It measures the energy efficiency, water usage, waste management and indoor environment quality of a building and its impact on the environment. The rating scale is from one to six stars to demonstrate performance. One star means the building can improve its impact on the environment considerably. The rating process takes into consideration: Climatic conditions in which the building operates, hours of operation, level of service provided, energy sources used and size and occupancy of the building. The ratings that the buildings achieve and recommendations for improving star ratings were given in a report. Reassessment may occur to determine improvements over time.

¹⁶ The administration buildings that were NABERS rated in 2015 included one council administration building at Caloundra and two at Nambour.



Sunshine Coast Solar Farm

Sunshine Coast Council is Australia's first local government to construct a 15 MW solar farm. The solar farm will provide \$22 million in electricity savings for all council's buildings and facilities, after costs, over a 30 year period based on today's electricity costs, which are predicted to rise in the future.

The renewable energy generated will contribute to reducing Australia's greenhouse gas emissions. This is in line with Australia's commitments to the Paris Agreement, which aims to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. It is also in line with the Queensland State Government's target to achieve zero-net emissions by 2050.

Environmental sustainability programs within the organisation

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Staff participating in work place sustainability programs and events (about waste, water, energy, greenhouse gas and transport)	965 Staff	58% participation rate	–	
Change in staff participating in work place sustainability programs and events between the 2015/16 and 2016/17 financial years	691 Staff in 2015/16	14% increase in staff participation	–	More staff were engaged in information technology programs and events, such as Ignite and Hackfest, that have innovation and sustainability outcomes.
Other indicators				
Number of workplace sustainability events and programs ¹⁷	8	–	–	
Change in number of work place sustainability events and programs between the 2015/16 and 2016/17 financial years	1 less program	–	–	Sunshine Coast Council has become more focused and effective in its delivery of sustainability programs for staff.

¹⁷ Staff environmental sustainability programs and events included World Environment Day, National Recycling Week, Earth Hour, Green Travel, Love to Ride and a workshop about applying sustainability when catering in the workplace.



Environmental sustainability embedded into systems and processes

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
Primary indicators				
Whole of organisation systems and processes that enable environmental sustainability outcomes (including procurement, human resources, governance, corporate knowledge and information and assets)	12 systems and processes	–	–	
Change in whole of organisation systems and processes that enable environmental sustainability outcomes (including procurement, human resources, governance, corporate knowledge and information and assets) between the 2015/16 and 2016/17 financial years	Increased by 2 since 2015/16	–	–	For example: Paper Cut is a whole of organisation platform to monitor paper use. Council has reduced its environmental impact by ensuring 91% of paper purchased is 100% post-consumer recycled carbon neutral paper.
Other indicators				
New contracts, approved for award by the Procurements Contract Committee, exceeding the value of \$200,000, that were evaluated with regard to environmental criterion ¹⁸	56 of 63 contracts	89%	–	
Change in new contracts (approved for award by the Procurements Contract Committee, exceeding the value of \$200,000, that were evaluated with regard to environmental criterion) between the 2015/16 and 2016/17 financial years	75 of 79 contracts in 2015/16	95% in 2015/16	–	There were fewer new contracts evaluated with regard to environmental criterion in 2016/17 because the nature of the contracts did not require evaluation against environmental criterion
Number of information technology tools used in council to measure and monitor energy, waste, water, greenhouse gas, transport, environmental sustainability programs or green buildings	15 tools ¹⁹	–	–	

¹⁸ In many cases environmental criteria are applied to the request for quote (RFQ) evaluation process for contracts under \$200,000. These are not all captured in a central location by Sunshine Coast Council, so have been omitted.

¹⁹ These tools include project management solutions, data visualisation 3D augmentation, electronic assessment and mobilisation, lidar algorithm pilot, Disaster Hub reporting, Smart Region Management platform, big data and analytics, event management solutions, digital connect platform and online services and open data. These tools have assisted to reduce paper use and the need for council staff to travel as well as efficiencies for water and waste, pest species identification, sustainable events and water quality monitoring.

Indicators	Snap Shot Results 2016/17			Put in perspective
	Total	%	Per full time equivalent	
<i>Other indicators continued</i>				
Change in number of information technology tools used in council to measure and monitor energy, waste, water, greenhouse gas, transport, environmental sustainability programs or green buildings between the 2015/16 and 2016/17 financial years	Number of tools increased by 11 since 2015/16	–	–	
New employees who have completed a local induction checklist at the local business area where they were informed of and encouraged to embrace council's vision of being Australia's most sustainable region	98 of 271 new employees	36%	–	
Change in new employees who have completed a local induction checklist at the local business area where they were informed of and encouraged to embrace council's vision of being Australia's most sustainable region between the 2015/16 and 2016/17 financial years	68 out of 173 new employees in 2015/16 (39%)	3% reduction since 2015/16	–	
New permanent employees who have participated in a corporate orientation program where they were informed of and encouraged to embrace Council's vision of being Australia's most sustainable region	124 of 124 New permanent employees ²⁰	100%	–	
Change in new permanent employees who have participated in a corporate orientation program where they were informed of and encouraged to embrace Council's vision of being Australia's most sustainable region between the 2015/16 and 2016/17 financial years	46 out of 75 new permanent employees in 2015/16 (62%)	38% increase since 2015/16	–	

²⁰ Not all casual (58) and temporary (89) employees are required to attend Corporate Orientation and as such are not included in this calculation

References

Clean Energy Council, accessed June 2015,
www.solaraccreditation.com.au/consumers/purchasing-your-solar-pv-system/how-solar-pv-works.html





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